

## REMARKS

The Office action mailed 29 March 2005, has been received and its contents carefully noted. Claims 1-14 and 22-36 are pending, claims 22-24 and 26-30 were withdrawn from consideration, and claims 1-14, 25 and 31-36 are rejected. By this amendment, claims 1, 5, 14, 25, and 32 have been amended and claims 2-4 are canceled. Support may be found in the specification and the claims as originally filed. No statutory new matter has been added. Therefore, reconsideration and entry of the claims as amended are respectfully requested.

### **Rejection under 35 U.S.C. 112, second paragraph**

The Examiner rejected the claims under 35 U.S.C. 112, second paragraph, as being indefinite. Specifically, the Examiner deemed that:

1. In claim 1, the term “over” is vague as it is unclear whether the single reactant component is immobilized directly over the single electrode.
2. Claim 14 is vague as it is unclear if the plurality of single reactant components is immobilized or if a plurality is present but not immobilized.
3. Claim 25 is vague as it is unclear whether the single reactant component is the same as claim 1 or whether the biosensor comprises only the single electrode of claim 1.
4. In claim 32, the phrase “the same as or different from” is vague as it is unclear whether the single reactant component is the same species as the single reactant component or whether the single reactant component is the same component as the single reactant component.

Applicants respectfully submit that the claims as amended are clear and definite. Specifically, claim 1 has been amended such that it is clear that the single reactant component is “immobilized directly to” the single electrode.

Claim 14 has been amended such that it is clear that the plurality is more than one single reactant component immobilized directly to a single electrode. In other words, there are more than one single reactant components which each have their own electrode to which they are immobilized directly – there are two or more sets of a single reactant component immobilized directly to a single electrode.

Claim 25 as amended is clear and definite. Specifically, Applicants note the term

“comprises”. Thus, the biosensor comprises the single reactant component immobilized directly to the single electrode according to claim 1 and may “comprise” other items such as those typical to biosensing devices, e.g. microfluidic channels. If the biosensor was to comprise only the single electrode of claim 1, then “consisting” of language would have been used.

Claim 32 as amended is clear and definite. Specifically, the claim has been amended to make clear that the second single reactant component is the same reactant component as the single reactant component or a different reactant component as the single reactant component. For example, where the second single reactant component is the same as the single reactant component, they are the same species, e.g. neuronal cells. Where the second reactant component is different from the single reactant component, one may be a neuronal cell and the other may be a glial cell.

Therefore, the claims as amended are clear and definite and the Applicants request that the rejection under 35 U.S.C. 112, second paragraph, should properly be withdrawn.

#### **Rejection under 35 U.S.C. 102(e)**

The Examiner rejected claims 1-6, 8, 12, 25, 31 and 32 under 35 U.S.C. 102(e) as being anticipated by Hashimoto. Specifically, the Examiner deemed that Hashimoto discloses a nucleic acid immobilized directly to a single electrode to which a bacterium is immobilized.

Applicants respectfully submit the claims as amended are not anticipated by Hashimoto. The claims have been amended such that the single reactant component is a microorganism or a cell that is immobilized directly to the single electrode. Nowhere does Hashimoto teach or suggest that a cell may be immobilized directly to the single electrode. Instead, Hashimoto teaches using a nucleic acid molecule to link a cell to the electrode.

As Hashimoto does not teach each and every element of the present invention as claimed, the rejection under 35 U.S.C. 102(e) should properly be withdrawn.

#### **Rejection under 35 U.S.C. 102(b)**

The Examiner rejected claims 1, 9-11, 25 and 33-36 under 35 U.S.C. 102(b) as being anticipated by Wohlstadter et al. Specifically, the Examiner deemed that Wohlstadter et al. teach a single reactant component, the plurality of binding domains, immobilized over a single electrode.

Applicants respectfully submit that Wohlstadter et al. does not teach or suggest immobilizing a microorganism or a cell directly to a single electrode. Therefore, Wohlstadter et al. does not teach each and every element of the claimed invention and the rejection should properly be withdrawn.

The Examiner rejected claims 1, 2 and 7 under 35 U.S.C. 102(b) as being anticipated by Giglio et al. Specifically, the Examiner deemed that Giglio et al. teach an osteoblast immobilized over a single electrode via a PPY film modified with an RGD peptide.

Applicants respectfully submit that Giglio et al. do not teach or suggest immobilizing the osteoblast directly to the electrode. Thus, Giglio et al. do not teach the claimed invention and the rejection under 35 U.S.C. 102(b) should properly be withdrawn.

**Request for Interview**

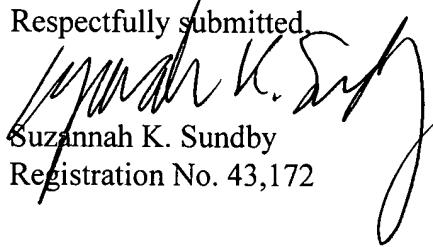
Applicants respectfully request either a telephonic or an in-person interview should there be any remaining issues.

## CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. §1.136(a), and any fees required therefor are hereby authorized to be charged to **Deposit Account No. 02-4300**, Attorney Docket No. **034044.030 (2003-368-2)**.

Respectfully submitted,



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